

Appl. No. 09/924,746  
Amended July 19, 2005  
Reply to Office Action of May 19, 2005

**Amendment to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (presently amended): In a WDM communication system, a transmitter comprising:

a plurality of lasers assigned to transmit optical signals on a corresponding plurality of WDM channels;

a multiplexer that combines said plurality of optical signals onto a single fiber to form a composite WDM signal;

an optical channel monitor that monitors said composite WDM signal to determine wavelengths of said plurality of optical signals;

a control block that controls transmission wavelengths of said plurality of lasers to match wavelengths of said optical signals to desired WDM channel positions; and

~~an~~ a variable optical attenuator that blocks further transmission of said composite WDM signal when said optical channel monitor determines that a wavelength of at least one of said plurality of lasers is outside a desired range.

Claim 2 (canceled)

Claim 3 (original): The transmitter of claim 1 further comprising:

a tap coupler that splits off a portion of said composite WDM signal for monitoring by said optical channel monitor.

Claim 4 (original): The transmitter of claim 1 wherein said optical channel monitor comprises:

a tunable filter that is tuned through a spectrum of said WDM signal;

a photodetector, coupled to an output of said tunable filter, that detects peaks of said WDM signal.

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Claim 5 (original): The transmitter of claim 1 wherein said optical channel monitor comprises:

an arrayed waveguide grating that outputs a plurality of monitor signals each indicative of composite WDM signal strength at a particular spectral position.

Claim 6 (original): The transmitter of claim 1 wherein said optical channel monitor comprises an optical spectrum analyzer.

Claim 7 (presently amended): In a WDM communication system, a method for transmitting comprising:

generating a plurality of optical signals on a plurality of WDM channels using a corresponding plurality of lasers;

multiplexing said plurality of optical signals onto a single fiber to form a composite WDM signal;

monitoring said composite WDM signal to determine wavelengths of said plurality of lasers;

controlling transmission wavelengths of said plurality of lasers to match wavelengths of said optical signals to desired WDM channel positions; and

blocking further transmission of said composite WDM signal with a variable optical attenuator when monitoring determines that a wavelength of at least one of said plurality of lasers is outside a desired range.

Claim 8 (canceled)

Claim 9 (original): The method of claim 7 further comprising:  
splitting off a portion of said composite WDM signal for said monitoring.

Claim 10 (original): The method of claim 7 wherein monitoring comprises:  
tuning a tunable filter through a spectrum of said WDM signal; and  
detecting peaks of said WDM signal based on output of said tunable filter; and  
determining wavelengths of said lasers at positions of said peaks.

Claim 11 (original): The method of claim 7 wherein monitoring comprises:

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employing an arrayed waveguide grating to output a plurality of monitor signals each indicative of composite WDM signal strength at a particular spectral position.

Claim 12 (original): The method of claim 7 wherein monitoring comprises:  
employing an optical spectrum analyzer.

Claim 13 (presently amended): In a WDM communication system, apparatus for transmitting comprising:  
means for generating a plurality of optical signals on a corresponding plurality of WDM channels;  
means for multiplexing said plurality of optical signals onto a single fiber to form a composite WDM signal;  
means for monitoring said composite WDM signal to determine wavelengths of said plurality of optical signals;  
means for controlling transmission wavelengths of said plurality of optical signals to match wavelengths of said optical signals to desired WDM channel positions; and  
~~means~~ a variable optical attenuator for blocking further transmission of said composite WDM signal when monitoring determines that a wavelength of at least one of said plurality of lasers is outside a desired range.

Claim 14 (canceled)

Claim 15 (original): The apparatus of claim 13 further comprising:  
means for splitting off a portion of said composite WDM signal for input to said monitoring means.

Claim 16 (previously presented): The apparatus of claim 13 wherein said monitoring means comprises:  
a tunable filter that is tuned through a spectrum of said WDM signal; and  
means for detecting peaks of said WDM signal based on output of said tunable filter; and  
means for determining wavelengths of said lasers at positions of said peaks.

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Claim 17 (original): The apparatus of claim 13 wherein said monitoring means comprises:

an arrayed waveguide grating that outputs a plurality of monitor signals each indicative of composite WDM signal strength at a particular spectral position.

Claim 18 (original): The apparatus of claim 13 wherein said monitoring means comprises an optical spectrum analyzer.